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SPACE OPERATIONS CONTROL CENTER SATELLITE SITUATION REPORT

VOL. 5, NO.5

MARCH 15, 1965

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GODDARD SPACE FLIGHT CENTER

GREENBELT, MD.

NASA

MAR 25 1965

SPACE OPERATIONS CONTROL CENTER
GODDARD SPACE FLIGHT CENTER
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VOLUME 5 NO. 5

MARCH 15, 1965

SATELLITE SITUATION REPORT

THE FOLLOWING REPORT REFLECTS DATA COMPUTED AND COMPILED BY
THE GODDARD SPACE FLIGHT CENTER, NORAD, AND SMITHSONIAN ASTROPHICAL
OBSERVATORY AS OF 1200Z ON MARCH 15, 1965.

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1958 LAUNCHES									
ALPHA 1	EXPLORER 1	004	US	1 FEB	104.3	33.18	1577	339	
BETA 1	ROCKET BODY	016	US	17 MAR	138.4	34.24	4310	658	
BETA 2	VANGUARD 1	005	US	17 MAR	134.0	34.24	3940	648	
1959 LAUNCHES									
ALPHA 1	VANGUARD 2	011	US	17 FEB	125.4	32.88	3280	561	
ALPHA 2	ROCKET BODY	012	US	17 FEB	129.7	32.90	3661	552	
ETA 1	VANGUARD 3	020	US	18 SEP	129.8	33.32	3726	502	
MU 1	LUNIK 1	112	USSR	2 JAN	HELIOCENTRIC ORBIT				
NU 1	PIONEER 4	113	US	3 MAR	HELIOCENTRIC ORBIT				
IOTA 1	EXPLORER 7	022	US	13 OCT	101.1	50.33	1068	557	
IOTA 2	ROCKET BODY	023	US	13 OCT	100.9	50.31	1051	552	
1960 LAUNCHES									
ALPHA 1	PIONEER 5	027	US	11 MAR	HELIOCENTRIC ORBIT				
BETA 1	ROCKET BODY	028	US	1 APR	99.1	48.42	745	686	
BETA 2	TIROS 1	029	US	1 APR	99.2	48.40	742	697	
BETA 3	NONE	101	US	1 APR	97.9	48.50	703	610	
BETA 4	NONE	115	US	1 APR	99.9	48.16	806	699	
GAMMA 2	TRANSIT 1B	031	US	13 APR	93.8	51.23	568	348	
GAMMA 4	NONE	099	US	13 APR	96.7	51.26	722	481	
EPSILON 3	NONE	036	USSR	15 MAY	90.5	64.98	359	241	
ZETA 1	MIDAS 2	043	US	24 MAY	94.3	33.04	486	479	
ETA 1	TRANSIT 2A	045	US	22 JUN	101.6	66.70	1052	620	
ETA 2	GREB	046	US	22 JUN	101.6	66.70	1050	619	
ETA 3	ROCKET BODY	047	US	22 JUN	101.4	66.68	1033	617	
ETA 4		840	US	22 JUN	101.5	66.69	1047	617	
ETA 5		841	US	22 JUN	101.5	66.69	1047	614	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)	
1960 LAUNCHES (CONT'D)										
IOTA 1	ECHO 1	049	US	12 AUG	113.9	47.27	1709	1103		
IOTA 2	ROCKET BODY	050	US	12 AUG	118.1	47.24	1687	1500		
IOTA 3	METAL OBJECT	051	US	12 AUG	118.2	47.25	1683	1520		
IOTA 4	METAL OBJECT	052	US	12 AUG	CURRENT ELEMENTS NOT MAINTAINED					
IOTA 5	METAL OBJECT	053	US	12 AUG	118.4	47.29	1687	1533		
NU 1	COURIER 1B	058	US	4 OCT	107.0	28.32	1212	963		
NU 2	ROCKET BODY	059	US	4 OCT	106.6	28.24	1206	925		
XI 1	EXPLORER 8	060	US	3 NOV	112.3	49.95	2244	418		
XI 2	ROCKET BODY	062	US	3 NOV	111.8	49.94	2203	417		
XI 3	NONE	069	US	3 NOV	109.0	49.38	1957	399		
XI 4	NONE	105	US	3 NOV	110.4	50.50	2067	420		
PI 1	TIROS 2	063	US	23 NOV	98.2	48.52	727	621		
PI 2	ROCKET BODY	064	US	23 NOV	98.1	48.51	724	611		
PI 3	NONE	074	US	23 NOV	98.2	48.54	724	616		
PI 4	NONE	075	US	23 NOV	98.3	48.51	735	618		
1961 LAUNCHES										
ALPHA 1	SAMOS 2	070	US	31 JAN	94.7	97.39	545	466		
ALPHA 2	METAL OBJECT	079	US	31 JAN	94.6	97.40	537	465		
GAMMA 1	VENUS PROBE	080	USSR	12 FEB	HELIOCENTRIC ORBIT					
DELTA 2	ROCKET BODY	082	US	16 FEB	118.5	38.86	2598	629		
DELTA 3	NONE	085	US	16 FEB	CURRENT ELEMENTS NOT MAINTAINED					
KAPPA 1	EXPLORER 10	098	US	25 MAR	POSITION UNCERTAIN					
NU 1	EXPLORER 11	107	US	27 APR	107.9	28.79	1780	479		
OMICRON 1	TRANSIT 4A	116	US	29 JUN	103.8	66.82	993	886		
OMICRON 2	INJUN-SR-3	117	US	29 JUN	103.8	66.82	996	885		
OMICRON 3-206**	METAL OBJECTS		US	29 JUN					\$54\$324\$150\$400	
RHO 1	TIROS 3	162	US	12 JUL	100.4	47.90	813	741		

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL I - NATION	APOGEE		PERIGEE		TRANSMITTING FREQ. (MC/S)
							Km.		Km.		

1961 LAUNCHES (CONT'D)

RHO 2	ROCKET BODY	165	US	12 JUL	100.3	47.89	808		740		
RHO 3	METAL OBJECT	166	US	12 JUL	98.8	47.92	791		615		
RHO 4	METAL OBJECT	167	US	12 JUL	102.0	47.85	934		772		
SIGMA 1	MIDAS 3	163	US	12 JUL	161.5	91.17	3570		3321		
SIGMA 3	METAL OBJECT	188	US	12 JUL	161.2	91.17	3536		3336		
SIGMA 4	METAL OBJECT	196	US	12 JUL	161.9	91.22	3583		3341		
UPSILON 1	EXPLORER 12	170	US	16 AUG	CURRENT ELEMENTS NOT MAINTAINED						
A DELTA 1	MIDAS 4	192	US	21 OCT	166.0	95.86	3745		3508		
A DELTA 3	METAL OBJECT	194	US	21 OCT	165.6	95.82	3734		3488		
A DELTA 4	METAL OBJECT	195	US	21 OCT	166.4	95.84	3793		3494		
A ETA 1	TRANSIT 4B	202	US	15 NOV	105.8	32.43	1106		953		
A ETA 2	TRAAC	205	US	15 NOV	105.8	32.43	1103		958		
A ETA 3	ROCKET BODY	204	US	15 NOV	105.6	32.42	1099		947		

1962 LAUNCHES

ALPHA 1	RANGER 3	221	US	26 JAN	HELIOCENTRIC ORBIT						
ALPHA 2	ROCKET BODY	222	US	26 JAN	HELIOCENTRIC ORBIT						
BETA 1	TIROS 4	226	US	8 FEB	100.4	48.31	843		708		
BETA 2	ROCKET BODY	227	US	8 FEB	101.4	48.14	943		700		
BETA 3	METAL OBJECT	228	US	8 FEB	99.5	48.43	762		703		
BETA 4	METAL OBJECT	229	US	8 FEB	100.3	48.30	846		698		
ZETA 1	ORB.SOL.OBS.1	255	US	7 MAR	96.0	32.84	586		548		
ZETA 2	ROCKET BODY	257	US	7 MAR	96.0	32.83	584		547		
KAPPA 1		271	US	9 APR	153.0	86.68	3355		2841		
KAPPA 3		273	US	9 APR	152.6	86.67	3368		2798		
KAPPA 4		274	US	9 APR	153.3	86.67	3424		2802		
MU 2	ROCKET BODY	282	US	23 APR	HELIOCENTRIC ORBIT						
OMICRON 1	ARIEL 1	285	US/UK	26 APR	100.5	58.90	1166		395		
OMICRON 2	ROCKET BODY	288	US	26 APR	100.3	58.87	1156		392		

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL - NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1962 LAUNCHES (CONT'D)									
A ALPHA 1	TIROS 5	309	US	19 JUN	100.5	58.13	963	599	
A ALPHA 2	ROCKET BODY	311	US	19 JUN	100.4	58.12	959	594	
A ALPHA 3	METAL OBJECT	312	US	19 JUN	101.7	58.18	1081	602	
A ALPHA 4	METAL OBJECT	313	US	19 JUN	99.1	57.99	852	579	
A EPSILON 1	TELSTAR 1	340	US	10 JUL	157.8	44.79	5645	943	
A EPSILON 2	ROCKET BODY	341	US	10 JUL	157.6	44.79	5628	946	
A OMICRON 1		369	US	23 AUG	99.5	98.70	858	617	
A OMICRON 2		370	US	23 AUG	98.2	98.64	745	605	
A OMICRON 3		378	US	23 AUG	100.8	98.73	974	621	
A OMICRON 4		388	US	23 AUG	99.5	98.70	857	616	
A RHO 1	MARINER 2	374	US	27 AUG	HELIOCENTRIC ORBIT				
A RHO 2	ROCKET BODY	375	US	27 AUG	HELIOCENTRIC ORBIT				
A PSI 1	TIROS 6	397	US	18 SEP	98.7	58.33	709	687	
A PSI 2	ROCKET BODY	398	US	18 SEP	98.7	58.33	703	687	
A PSI 3	METAL OBJECT	399	US	18 SEP	99.4	58.42	774	684	
A PSI 4	METAL OBJECT	400	US	18 SEP	98.0	58.20	689	640	
B ALPHA 1	ALOUETTE	424	CANADA	29 SEP	105.5	80.48	1033	1002	\$136.591
B ALPHA 2	ROCKET BODY	426	US	29 SEP	105.4	80.49	1028	1002	\$136.077
B ALPHA 3	METAL OBJECT	510	US	29 SEP	105.4	80.50	1021	1004	
B ALPHA 4	METAL OBJECT	511	US	29 SEP	105.5	80.46	1043	993	
B GAMMA 1	EXPLORER 14	432	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED				
B GAMMA 2#	ROCKET BODY	NNA	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED				
B ETA 1	RANGER 5	439	US	18 OCT	HELIOCENTRIC ORBIT				
B ETA 2	ROCKET BODY	440	US	18 OCT	HELIOCENTRIC ORBIT				
B KAPPA 1		444	US	27 OCT	128.8	71.39	3919	210	
B LAMBDA 1	EXPLORER 15	445	US	27 OCT	312.1	18.04	17401	307	
B LAMBDA 2#	ROCKET BODY	NNA	US	27 OCT	INSUFFICIENT OBSERVATIONS				
B MU 1	ANNA 1B	446	US	31 OCT	107.9	50.14	1182	1077	\$162

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1962 LAUNCHES (CONT'D)									
B MU 2	ROCKET BODY	447	US	31 OCT	107.6	50.17	1161	1072	\$136.140;136.620
B NU 3		450	USSR	1 NOV	HELIOCENTRIC ORBIT				
B TAU 1		502	US	13 DEC	107.5	70.36	1987	232	
B TAU 2	INJUN 3	504	US	13 DEC	111.5	70.40	2351	240	
B TAU 4		508	US	13 DEC	102.2	70.36	1496	218	
B TAU 5		513	US	13 DEC	107.3	70.33	1974	231	
B TAU 6		520	US	13 DEC	110.6	70.37	2273	239	
B UPSILON 1	RELAY 1	503	US	13 DEC	185.1	47.51	7440	1318	
B UPSILON 2	ROCKET BODY	515	US	13 DEC	184.8	47.53	7428	1313	
B CHI 1	EXPLORER 16	506	US	16 DEC	104.4	52.02	1177	753	
B PSI 1	TRANSIT 5A	509	US	19 DEC	99.1	90.65	736	695	
B PSI 2		514	US	19 DEC	97.7	90.76	729	568	
B PSI 3		519	US	19 DEC	99.1	90.64	735	695	
B PSI 4		523	US	19 DEC	100.2	90.49	842	695	
1963 LAUNCHES									
1963 03A		527	US	16 JAN	94.4	81.89	523	461	
1963 04A	SYNCOM 1	553	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED				
1963 04B	ROCKET BODY	532	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED				
1963 05A		533	US	19 FEB	97.7	100.47	797	500	
1963 05B		534	US	19 FEB	97.7	100.46	795	504	
1963 05C		535	US	19 FEB	96.8	100.45	739	478	
1963 05D		536	US	19 FEB	98.3	100.47	835	525	
1963 08B		566	USSR	2 APR	BARYCENTRIC ORBIT				
1963 09A	EXPLORER 17	564	US	3 APR	94.3	57.60	711	256	
1963 13A	TELSTAR 2	573	US	7 MAY	225.3	42.74	10817	955	
								136.050	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1963 LAUNCHES (CONT'D)									
1963 13B	ROCKET BODY	575	US	7 MAY	225.1	42.75	10802	954	
1963 14A		574	US	9 MAY	166.4	87.31	3703	3588	
1963 14B		579	US	9 MAY	166.4	87.00	4198	3095	
1963 14C		608	US	9 MAY	166.4	87.36	3665	3625	
1963 14D		589	US	9 MAY	CURRENT ELEMENTS NOT MAINTAINED				
1963 14E		602	US	9 MAY	166.1	87.36	3643	3619	
1963 14F		628	US	9 MAY	166.8	87.36	3681	3641	
1963 14G		629	US	9 MAY	166.4	87.35	3675	3615	
1963 14H		702	US	9 MAY	166.4	87.35	3658	3632	
1963 17A		580	USSR	22 MAY	90.8	48.96	395	233	
1963 17C		582	USSR	22 MAY	91.9	49.17	425	301	
1963 22A		594	US	16 JUN	99.7	90.02	764	727	\$150\$400
1963 22B		603	US	16 JUN	99.7	90.02	763	727	
1963 22C		610	US	16 JUN	101.2	90.21	892	743	
1963 22D		611	US	16 JUN	98.1	89.84	774	566	
1963 24A	TIROS 7	604	US	19 JUN	97.4	58.24	652	620	\$136.233\$136.992
1963 24B	ROCKET BODY	605	US	19 JUN	97.3	58.24	648	615	
1963 24C	METAL OBJECT	606	US	19 JUN	97.9	58.37	680	634	
1963 24D	METAL OBJECT	607	US	19 JUN	96.9	58.09	645	574	
1963 25B		614	US	27 JUN	132.2	82.16	4105	336	
1963 26A	RESEARCH SATELLITE FOR GEOPHYSICS	612	US	28 JUN	102.0	49.76	1301	409	
1963 27A		613	US	29 JUN	94.7	82.32	524	483	
1963 30A		622	US	19 JUL	167.8	88.43	3728	3677	
1963 30B		635	US	19 JUL	167.8	88.36	3710	3673	
1963 30C		630	US	19 JUL	167.5	88.43	3718	3658	
1963 30D		624	US	19 JUL	167.8	88.24	4286	3113	
1963 30E		631	US	19 JUL	168.3	88.43	3780	3659	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1963 LAUNCHES (CONT'D)									
1963 31A	SYNCOM 2	634	US	26 JUL	1437.9	32.01	35839	35803	\$136.467\$136.980 \$1814.069 \$1815.794 \$1820.177
1963 31B	ROCKET BODY	625	US	26 JUL	CURRENT ELEMENTS NOT MAINTAINED				
1963 38A		669	US	28 SEP	107.1	89.92	1113	1074	
1963 38B		670	US	28 SEP	107.4	89.92	1134	1078	
1963 38C		671	US	28 SEP	107.3	89.92	1132	1078	
1963 38D		672	US	28 SEP	107.3	89.95	1131	1178	
1963 38E		745	US	28 SEP	107.1	89.93	1113	1073	
1963 39A		674	US	17 OCT	6480.6	38.02	116331	101199	
1963 39B		675	US	17 OCT	2319.4	35.90	102371	953	
1963 39C		692	US	17 OCT	6511.5	36.88	115480	102781	136.652\$162\$324
1963 42B		682	US	29 OCT	90.9	89.97	370	263	
1963 43A	POLYOT 1	683	USSR	1 NOV	102.3	58.94	1391	344	
1963 43B		684	USSR	1 NOV	100.2	58.66	1210	326	
1963 43C		685	USSR	1 NOV	96.4	58.97	867	301	
1963 43D		686	USSR	1 NOV	99.7	59.82	1163	323	136.111
1963 46A	EXPLORER 18 CENTAUR 2	693	US	27 NOV	5603.8	37.72	192558	3698	
1963 47A		694	US	27 NOV	107.8	30.36	1767	481	
1963 47B		696	US	27 NOV	107.2	30.06	1612	583	
1963 47C		697	US	27 NOV	107.5	30.07	1640	576	
1963 47D		698	US	27 NOV	108.0	29.90	1660	608	
1963 47E		699	US	27 NOV	108.6	30.44	1749	574	
1963 47F		700	US	27 NOV	108.7	30.47	1756	569	
1963 47G		701	US	27 NOV	107.8	30.00	1647	603	
1963 47H		739	US	27 NOV	105.9	30.42	1587	483	
1963 49A		703	US	5 DEC	106.8	89.96	1097	1063	
1963 49B		704	US	5 DEC	107.1	89.97	1123	1067	\$150\$400

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLINATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1963 LAUNCHES (CONT'D)									
1963 49C		705	US	5 DEC	107.1	89.96	1121	1067	
1963 49D		706	US	5 DEC	107.1	89.96	1124	1059	
1963 49E		715	US	5 DEC	107.1	89.95	1131	1056	
1963 49F		753	US	5 DEC	107.1	89.97	1130	1059	
1963 53A	EXPLORER 19	714	US	19 DEC	115.4	78.65	2324	622	
1963 53B		721	US	19 DEC	115.9	78.61	2402	589	
1963 53C		722	US	19 DEC	115.8	78.60	2381	604	
1963 53D		723	US	19 DEC	115.9	78.63	2393	601	
1963 53E		724	US	19 DEC	115.9	78.63	2389	609	
1963 53F		725	US	19 DEC	115.8	78.63	2381	603	
1963 53G		726	US	19 DEC	115.8	78.62	2387	597	
1963 53H		732	US	19 DEC	115.8	78.61	2387	597	
1963 54A		716	US	21 DEC	99.4	58.52	747	709	
1963 54B		717	US	21 DEC	99.3	58.51	740	710	
1963 54C	TIROS 8	720	US	21 DEC	101.1	58.47	915	704	
1963 54D		736	US	21 DEC	97.7	58.49	914	581	
									\$136.231\$136.923
1964 LAUNCHES									
1964 01A		727	US	11 JAN	103.4	69.93	936	910	
1964 01B	GGSE	728	US	11 JAN	103.4	69.91	936	910	
1964 01C	EGRS	729	US	11 JAN	103.4	69.91	934	911	
1964 01D	SOLAR RAD.	730	US	11 JAN	103.5	69.92	935	911	136.803
1964 01E		731	US	11 JAN	103.5	69.92	936	910	136.886
1964 02A		733	US	19 JAN	101.3	99.08	846	795	
1964 02B		734	US	19 JAN	101.3	99.08	827	812	
1964 02C		735	US	19 JAN	101.3	99.10	831	813	
1964 03A	RELAY 2	737	US	21 JAN	194.7	46.32	7491	2009	
									136.620\$136.142

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1964 LAUNCHES (CONT'D)									
1964 03B		738	US	21 JAN	194.4	46.53	7456	1980	136.021;136.170
1964 04A	ECHO 2	740	US	25 JAN	108.4	81.53	1279	1033	
1964 04B		741	US	25 JAN	108.9	81.52	1307	1048	
1964 04C		742	US	25 JAN	108.8	81.50	1304	1044	
1964 04D		743	US	25 JAN	108.8	81.56	1307	1041	136.557
1964 04E		749	US	25 JAN	97.0	81.57	940	293	
1964 05A	SATURN 5	744	US	25 JAN	93.2	31.45	605	255	
1964 06A	ELEKTRON 1	746	USSR	30 JAN	169.3	60.87	7114	403	
1964 06B	ELEKTRON 2	748	USSR	30 JAN	1356.4	58.95	67443	980	
1964 06C		750	USSR	30 JAN	168.0	60.89	7015	403	
1964 06D		751	USSR	30 JAN	1384.1	59.11	68512	1014	
1964 11A		759	US	28 FEB	94.6	82.07	509	491	
1964 11B		760	US	28 FEB	93.5	82.05	443	441	
1964 11C		761	US	28 FEB	93.6	82.09	459	444	
1964 15A	ARIEL 2	771	US/UK	27 MAR	100.4	51.62	1252	300	136.557
1964 15B		775	US	27 MAR	99.9	51.63	1220	286	
1964 15C		847	US	27 MAR	103.8	51.37	1498	372	
1964 16D		785	USSR	2 APR	HELIOCENTRIC ORBIT				
1964 19B	POLYOT 2	784	USSR	12 APR	91.9	58.04	432	300	\$150\$400
1964 26A		801	US	4 JUN	103.1	90.49	954	856	
1964 26B		805	US	4 JUN	103.9	90.19	983	902	
1964 26C		806	US	4 JUN	102.3	90.83	953	785	
1964 26D		809	US	4 JUN	103.1	90.51	949	862	
1964 30A		811	US	13 JUN	90.6	114.99	313	297	
1964 31A		812	US	18 JUN	101.6	99.78	837	832	
1964 31B		813	US	18 JUN	101.6	99.79	839	831	
1964 31C		815	US	18 JUN	101.6	99.80	842	826	
1964 35A		824	US	2 JUL	94.8	82.08	532	493	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCL - NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1964 LAUNCHES (CONT'D)									
1964 38A	ELECTRON 3	829	USSR	10 JUL	168.1	60.82	7031	396	
1964 38B	ELECTRON 4	830	USSR	10 JUL	1313.9	59.70	66059	660	
1964 38C		831	USSR	10 JUL	168.5	60.82	7061	396	
1964 38D		832	USSR	10 JUL	1341.3	59.86	67171	650	
1964 40A		836	US	17 JUL	6091.6	38.94	104302	102173	
1964 40B		837	US	17 JUL	6000.9	40.75	112358	93662	
1964 40C		838	US	17 JUL	2349.7	38.30	104013	319	136.771
1964 41B		843	US	28 JUL	BARYCENTRIC ORBIT				
1964 45B		851	US	14 AUG	126.9	95.69	3687	289	\$136.470\$136.980
1964 47A	SYNCOM 3	858	US	19 AUG	1436.8	.10	35807	35791	\$1820.177\$1815.794
									\$1814.931
1964 47B		862	US	19 AUG	694.5	16.80	38084	1113	
1964 48A		861	US	21 AUG	89.9	114.97	261	254	
1964 49D	COSMOS 41	869	USSR	22 AUG	714.9	65.49	39568	644	
1964 49E		898	USSR	22 AUG	716.3	65.35	39843	442	
1964 50A	COSMOS 42	864	USSR	22 AUG	95.9	48.96	897	221	
1964 50B		866	USSR	22 AUG	94.8	48.94	781	218	
1964 50C	COSMOS 43	867	USSR	22 AUG	95.9	48.97	892	226	
1964 51A	EXPLORER 20	870	US	25 AUG	103.9	79.91	1018	872	\$136.326\$136.350
									\$136.680
1964 51B		871	US	25 AUG	103.9	79.92	1015	870	
1964 51C		873	US	25 AUG	103.6	79.83	990	867	
1964 51D		874	US	25 AUG	103.6	79.83	1028	832	
1964 51E		875	US	25 AUG	103.6	79.84	1033	825	
1964 52A	NIMBUS 1	872	US	28 AUG	98.3	98.67	930	431	136.499
1964 52B		878	US	28 AUG	98.4	98.67	932	430	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1964 LAUNCHES (CONT'D)									
1964 53A	COSMOS 44	876	USSR	28 AUG	99.5	65.07	870	603	\$136.200\$400.205 \$400.850 136.146
1964 53B		877	USSR	28 AUG	99.6	65.10	801	677	
1964 54A	OGO 1	879	US	5 SEP	3842.5	37.39	147492	2278	
1964 60A	EXPLORER 21	889	US	4 OCT	2080.3	33.72	94288	917	\$136.171\$162\$324 \$20\$40\$41\$360
1964 63A		893	US	6 OCT	106.3	89.92	1085	1030	
1964 63B		897	US	6 OCT	106.6	89.94	1082	1058	
1964 63C		900	US	6 OCT	106.6	89.94	1086	1053	
1964 63D		901	US	6 OCT	106.6	89.92	1079	1064	
1964 63E		902	US	6 OCT	106.6	89.94	1085	1057	
1964 63F		903	US	6 OCT	106.6	89.93	1089	1055	
1964 64A	EXPLORER 22	899	US	10 OCT	104.8	79.72	1080	889	
1964 64B		907	US	10 OCT	104.7	79.72	1078	890	
1964 64C		976	US	10 OCT	104.1	79.34	1062	842	
1964 64D		977	US	10 OCT	105.5	80.06	1119	919	\$136.080\$136.857 136.293\$136.860
1964 69A	COSMOS 49	913	USSR	24 OCT	91.2	48.95	411	253	
1964 72A		922	US	4 NOV	95.0	82.05	524	512	
1964 72B		925	US	4 NOV	94.9	82.04	520	508	
1964 72C		926	US	4 NOV	94.7	82.07	512	502	
1964 72D		927	US	4 NOV	94.8	82.03	510	507	
1964 73A	MARINER 3	923	US	5 NOV	HELIOCENTRIC ORBIT				
1964 74A	EXPLORER 23	924	US	6 NOV	99.2	51.94	978	464	
1964 76A	EXPLORER 24	931	US	21 NOV	116.0	81.37	2473	529	
1964 76B	EXPLORER 25	932	US	21 NOV	116.2	81.39	2495	529	
1964 76C		933	US	21 NOV	116.2	81.40	2492	534	
1964 76D		934	US	21 NOV	116.3	81.24	2420	512	
1964 76E		935	US	21 NOV	116.3	81.44	2491	541	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1964 LAUNCHES (CONT'D)									
1964 76F		936	US	21 NOV	116.1	81.26	2459	548	
1964 76G		937	US	21 NOV	116.4	81.27	2501	539	
1964 76H		939	US	21 NOV	115.7	81.33	2463	507	
1964 76I		940	US	21 NOV	116.1	81.20	2553	463	
1964 76J		941	US	21 NOV	116.1	81.41	2477	535	
1964 76K		960	US	21 NOV	116.4	81.36	2489	552	
1964 77A	MARINER 4	938	US	28 NOV	HELIOCENTRIC ORBIT				
1964 77B		942	US	28 NOV	HELIOCENTRIC ORBIT				
1964 78C	ZOND 2	945	USSR	30 NOV	HELIOCENTRIC ORBIT				
1964 80A	COSMOS 51	947	USSR	9 DEC	92.1	48.75	500	256	
1964 80B		948	USSR	9 DEC	91.5	48.77	437	250	
1964 83A		953	US	13 DEC	106.0	90.00	1072	1013	
1964 83B		956	US	13 DEC	106.3	90.00	1094	1019	
1964 83C		959	US	13 DEC	106.3	90.00	1089	1025	
1964 83D		965	US	13 DEC	106.3	90.00	1090	1025	136.561\$162\$234
1964 83E		966	US	13 DEC	106.3	89.99	1092	1022	\$150\$400
1964 83F		967	US	13 DEC	106.3	90.00	1097	1016	
1964 83G		1099	US	13 DEC	106.3	90.00	1089	1025	
1964 84A	SAN MARCO	957	ITALY	15 DEC	93.7	37.78	696	200	\$20;136.738
1964 86A	EXPLORER 26	963	US	21 DEC	456.1	20.17	26206	288	\$136.536
1965 LAUNCHES									
1965 03A		973	US	19 JAN	97.6	98.76	834	460	
1965 03B		974	US	19 JAN	96.8	98.82	752	463	
1965 03C		975	US	19 JAN	97.3	98.70	773	474	
1965 04A	TIROS 9	978	US	22 JAN	119.2	96.41	2584	704	\$136.231\$136.920
1965 04B		979	US	22 JAN	119.3	96.44	2598	702	
1965 06A	COSMOS 53	983	USSR	30 JAN	98.4	48.74	1136	222	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCL- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1965 LAUNCHES (CONT'D)									
1965 06B		984	USSR	30 JAN	98.1	48.74	1106	225	
1965 07A	ORB.SOL.OBS.2	987	US	3 FEB	96.5	32.85	626	547	136.712
1965 07B		988	US	3 FEB	96.6	32.86	637	547	
1965 08A		1000	US	11 FEB	145.6	32.13	2798	2781	
1965 08B		1001	US	11 FEB	145.4	32.13	2792	2764	
1965 08C		1002	US	11 FEB	145.7	32.15	2809	2776	
1965 09A	PEGASUS 1	1085	US	16 FEB	97.0	31.73	730	498	\$136.410;136.890
1965 09B		1088	US	16 FEB	97.1	31.76	734	499	
1965 11A	COSMOS 54	1089	USSR	21 FEB	104.9	56.05	1720	259	
1965 11B	COSMOS 55	1090	USSR	21 FEB	105.2	56.03	1744	261	
1965 11C	COSMOS 56	1091	USSR	21 FEB	104.5	56.03	1677	260	
1965 11D		1092	USSR	21 FEB	106.2	56.04	1826	276	
1965 11E		1094	USSR	21 FEB	104.1	56.04	1631	259	
1965 12AM		1133	USSR	22 FEB	90.9	64.79	447	169	
1965 12AN		1134	USSR	22 FEB	91.2	64.71	474	153	
1965 12AQ		1136	USSR	22 FEB	90.4	64.75	387	156	
1965 12AU		1140	USSR	22 FEB	90.2	64.83	402	159	
1965 12AW		1142	USSR	22 FEB	90.3	64.81	321	149	
1965 12AX		1143	USSR	22 FEB	91.6	64.62	570	133	
1965 12AY		1144	USSR	22 FEB	90.9	64.74	437	162	
1965 12AZ		1145	USSR	22 FEB	90.5	64.65	403	178	
1965 12BA		1146	USSR	22 FEB	90.4	64.95	426	147	
1965 12BB		1147	USSR	22 FEB	91.0	64.72	449	165	
1965 12BD		1149	USSR	22 FEB	90.9	64.82	408	184	
1965 12BE		1150	USSR	22 FEB	89.8	65.05	366	147	
1965 12BG		1152	USSR	22 FEB	90.8	64.67	439	151	
1965 12BL		1156	USSR	22 FEB	91.1	64.66	473	172	
1965 12BP		1159	USSR	22 FEB	90.4	64.42	437	144	
1965 12BS		1162	USSR	22 FEB	92.3	64.67	602	154	
1965 12BX		1167	USSR	22 FEB	91.1	64.74	472	169	

OBJECT	CODE NAME	CATALOGUE NUMBER	OBJECTS IN ORBIT				PERIGEE Km.	TRANSMITTING FREQ. (MC/S)	
			SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION			APOGEE Km.
1965 LAUNCHES (CONT'D)									
1965 12CE		1174	USSR	22 FEB	90.7	64.78	433	164	
1965 12CH		1177	USSR	22 FEB	91.0	64.74	487	133	
1965 12CK		1179	USSR	22 FEB	91.8	64.75	504	181	
1965 12CX		1194	USSR	22 FEB	90.4	64.70	376	187	
1965 12DA		1197	USSR	22 FEB	91.4	64.81	473	137	
1965 12DC		1199	USSR	22 FEB	91.4	64.59	468	183	
1965 12DG		1203	USSR	22 FEB	89.5	64.78	314	145	
1965 12DH		1204	USSR	22 FEB	89.8	64.64	343	158	
1965 12DJ		1205	USSR	22 FEB	90.5	64.54	453	132	
1965 12DN		1211	USSR	22 FEB	91.0	64.89	453	163	
1965 12DQ		1213	USSR	22 FEB	90.1	65.04	407	148	
1965 12DR		1214	USSR	22 FEB	90.1	64.83	383	165	
1965 12DS		1215	USSR	22 FEB	90.2	64.79	377	166	
1965 12DT		1216	USSR	22 FEB	89.9	64.75	371	154	
1965 12DU		1217	USSR	22 FEB	91.7	64.77	540	164	
1965 12DV		1218	USSR	22 FEB	91.4	64.98	527	158	
1965 12DW		1219	USSR	22 FEB	89.8	64.85	355	155	
1965 12DY		1221	USSR	22 FEB	90.7	65.05	450	143	
1965 12EA		1223	USSR	22 FEB	92.7	64.61	656	149	
1965 12EB		1224	USSR	22 FEB	89.7	64.68	337	170	
1965 12EC		1225	USSR	22 FEB	89.8	64.70	347	164	
1965 12ED		1226	USSR	22 FEB	89.7	64.77	302	190	
1965 13A		1096	US	25 FEB	89.6	75.12	328	180	
1965 14A	COSMOS 58	1097	USSR	26 FEB	96.8	65.03	649	561	
1965 14B		1098	USSR	26 FEB	96.9	65.05	709	510	
1965 15A	COSMOS 59	1191	USSR	7 MAR	89.8	64.97	321	205	
1965 15B		1192	USSR	7 MAR	89.5	65.04	311	190	
1965 16A		NNA	US	9 MAR	COMPUTATIONS IN PROGRESS				
1965 16B		NNA	US	9 MAR	103.5	70.09	938	904	
1965 16C		NNA	US	9 MAR	103.5	70.08	938	905	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL I- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1965 LAUNCHES (CONT'D)									
1965 16D		NNA	US	9 MAR	103.4	70.08	938	904	
1965 16E		NNA	US	9 MAR	103.4	70.08	938	904	
1965 17A		1228	US	11 MAR	97.8	89.9	1021	296	
1965 17B		1248	US	11 MAR	98.0	89.9	1005	332	
1965 17C		1249	US	11 MAR	97.7	89.9	1036	267	
1965 17D		1250	US	11 MAR	97.6	89.9	980	310	
1965 17E		1251	US	11 MAR	97.6	89.9	1033	260	
1965 18A	COSMOS 60	1246	USSR	12 MAR	89.0	64.7	264	195	
1965 18B		1252	USSR	12 MAR	88.7	64.7	237	194	
1965 18C		1253	USSR	12 MAR	88.7	64.6	235	191	
1965 19A		1247	US	12 MAR	88.8	107.6	287	149	
1965 19B		1259	US	12 MAR	88.9	107.6	291	152	
1965 19C		1260	US	12 MAR	88.7	107.5	281	147	
1965 20A	COSMOS 61	1267	USSR	14 MAR	105.1	56.0	1739	261	
1965 20B	COSMOS 62	1268	USSR	14 MAR	104.8	56.0	1713	258	
1965 20C	COSMOS 63	1269	USSR	14 MAR	104.4	56.0	1676	257	
1965 20D		1270	USSR	14 MAR	106.0	56.0	1827	260	

* APHELION PERIHELION IN ASTRONOMICAL UNITS, INCLINATION TO ECLIPTIC.
 ** TWO HUNDRED AND FOUR METAL OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH
 1961 OMICRON 1 AND 1962 OMICRON 2. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE
 FOUND IN THE DECAYED OBJECTS LIST.
 \$ TRANSMITTING ON COMMAND ONLY.
 & TRANSMITTING WHEN IN SUNLIGHT ONLY.
 # NO CATALOGUE NUMBER ASSIGNED.

DECAYED OBJECTS

CATALOGUE

NUMBER

SOURCE

LAUNCH

DECAY

CODE NAME

OBJECT

1957 LAUNCHES

ALPHA 1	001	USSR	4 OCT	1 DEC 57
ALPHA 2	002	USSR	4 OCT	EARLY JAN 58
BETA 1	003	USSR	3 NOV	14 APR 58

1958 LAUNCHES

GAMMA 1	006	US	26 MAR	28 JUN 58
DELTA 1	007	USSR	15 MAY	3 DEC 58
DELTA 2	008	USSR	15 MAY	6 APT 60
EPSILON 1	009	US	26 JUL	23 OCT 59
ZETA 1	010	US	18 DEC	21 JAN 59
ETA 1	110	US	11 OCT	12 OCT 58
THETA 1	111	US	6 DEC	7 DEC 58

1959 LAUNCHES

BETA 1	013	US	28 FEB	EARLY MAR 59
GAMMA 1	014	US	13 APR	26 APR 59
DELTA 1	015	US	7 AUG	PRESUMED PRIOR JUL 61
DELTA 2	017	US	7 AUG	PRESUMED PRIOR JUL 61
EPSILON 1	018	US	13 AUG	28 SEP 59
EPSILON 2	026	US	13 AUG	11 FEB 61
ZETA 1	019	US	19 AUG	20 OCT 59
THETA 1	021	USSR	4 CCT	MAR 60
KAPPA 1	024	US	7 NOV	26 NOV 59
LAMBDA 1	025	US	20 NOV	8 MAR 60
XI 1	114	USSR	12 SEP	13 SEP 59*****

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1960 LAUNCHES					
GAMMA 1	ROCKET BODY	030	US	13 APR	18 AUG 60
GAMMA 3	METAL OBJECT	033	US	13 APR	JUL 60
DELTA 1	DISCOVERER 11	032	US	15 APR	26 APR 60
EPSILON 1	SPUTNIK 4	034	USSR	15 MAY	5 SEP 62
EPSILON 2	ROCKET BODY	035	USSR	15 MAY	17 JUL 60
EPSILON 4	NONE	037	USSR	15 MAY	PRIOR JUL 61
EPSILON 5	NONE	038	USSR	15 MAY	SEP-OCT 60
EPSILON 6	NONE	039	USSR	15 MAY	24 SEP 60
EPSILON 7	NONE	040	USSR	15 MAY	24 SEP 60
EPSILON 8	NONE	041	USSR	15 MAY	SEP-OCT 60
EPSILON 9	NONE	042	USSR	15 MAY	SEP-OCT 60
ZETA 2	METAL OBJECT	044	US	24 MAY	5 DEC 60
THETA 1	DISCOVERER 13	048	US	10 AUG	14 NOV 60
THETA 1#	CAPSULE	NNA	US	10 AUG	11 AUG 60**
KAPPA 1	DISCOVERER 14	054	US	18 AUG	16 SEP 60
KAPPA 1#	CAPSULE	NNA	US	18 AUG	19 AUG 60**
LAMBDA 1	SPUTNIK 5	055	USSR	19 AUG	20 AUG 60*
LAMBDA 2	ROCKET BODY	056	USSR	19 AUG	23 SEP 60
MU 1	DISCOVERER 15	057	US	13 SEP	18 OCT 60
MU 1#	CAPSULE	NNA	US	13 SEP	15 SEP 60***
OMICRON 1	DISCOVERER 17	061	US	12 NOV	29 DEC 60
OMICRON 1#	CAPSULE	NNA	US	12 NOV	14 NOV 60
RHO 1	SPUTNIK 6	065	USSR	1 DEC	2 DEC 60
RHO 2	ROCKET BODY	066	USSR	1 DEC	2 DEC 60
SIGMA 1#	CAPSULE	NNA	US	7 DEC	10 DEC 60**
SIGMA 1	DISCOVERER 18	067	US	7 DEC	2 APR 61
TAU 1	DISCOVERER 19	068	US	20 DEC	23 JAN 61

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1961 LAUNCHES					
BETA 1	SPUTNIK 7	071	USSR	4 FEB	26 FEB 61
BETA 2	ROCKET BODY	072	USSR	4 FEB	12-13 FEB 61
BETA 3	NONE	073	USSR	4 FEB	17 MAR 61
GAMMA 2	ROCKET BODY	076	USSR	12 FEB	18 FEB 61
GAMMA 3	SPUTNIK 8	077	USSR	12 FEB	25 FEB 61
GAMMA 4	NONE	078	USSR	12 FEB	13-18 FEB 61
DELTA 1	EXPLORER 9	081	US	16 FEB	9 APR 64
DELTA 4	NONE	086	US	16 FEB	PRIOR JUL 61
EPSILON 1	DISCOVERER 20	083	US	17 FEB	28 JUL 62
EPSILON 2	NONE	088	US	17 FEB	30 MAR-2 APR 61
EPSILON 3	NONE	089	US	17 FEB	20 APR 61
EPSILON 4	NONE	090	US	17 FEB	31 OCT 61
ZETA 1	DISCOVERER 21	084	US	18 FEB	20 APR 62
ETA 1	TRANSIT 3B & 10FTI	087	US	22 FEB	30 MAR 61
THETA 1	SPUTNIK 9	091	USSR	9 MAR	9 MAR 61*
THETA 2	NONE	092	USSR	9 MAR	10 MAR 61
THETA 3	NONE	093	USSR	9 MAR	10 MAR 61
THETA 4	NONE	094	USSR	9 MAR	10 MAR 61
IOTA 1	SPUTNIK 10	095	USSR	25 MAR	25 MAR 61
IOTA 2	ROCKET BODY	096	USSR	25 MAR	26 MAR 61
IOTA 3	NONE	097	USSR	25 MAR	26 MAR 61
LAMBDA 1	DISCOVERER 23	100	US	8 APR	16 APR 62
LAMBDA 2	CAPSULE	102	US	8 APR	23 MAY 62
LAMBDA 3	NONE	106	US	8 APR	10 SEP 61
MU 1	VOSTOK 1	103	USSR	12 APR	12 APR 61****
MU 2	ROCKET BODY	104	USSR	12 SPR	16 APR 61
XI 1#	CAPSULE	NNA	US	16 JUN	18 JUN 61**
XI 1	DISCOVERER 25	108	US	16 JUN	12 JUL 61
XI 2	NONE	109	US	16 JUN	19 JUN 61

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1961 LAUNCHES (CONT'D)					
OMICRON 25	METAL OBJECT	140	US	29 JUN	30 SEP 62
OMICRON 28	METAL OBJECT	143	US	29 JUN	16 JUN 62
OMICRON 46	METAL OBJECT	171	US	29 JUN	29 JAN 62
OMICRON 62	METAL OBJECT	231	US	29 JUN	13 FEB 65
PI 1	DISCOVERER 26	160	US	7 JUL	5 DEC 61
PI 1#	CAPSULE	NNA	US	8 JUL	9 JUL 61 **
SIGMA 2	METAL OBJECT	164	US	12 JUL	24 JUL 61
TAU 1	VOSTOK 2	168	USSR	6 AUG	7 AUG 61 ****
TAU 2	ROCKET BODY	169	USSR	6 AUG	9 AUG 61
PHI 1	RANGER 1	173	US	23 AUG	30 AUG 61
PHI 2	ROCKET BODY	174	US	23 AUG	3 SEP 61
CHI 1	EXPLORER 13	180	US	25 AUG	28 AUG 61
PSI 1	DISCOVERER 29	181	US	30 AUG	10 SEP 61
PSI 1#	CAPSULE	NNA	US	30 AUG	4 SEP 61
OMEGA 1	DISCOVERER 30	182	US	12 SEP	11 DEC 61
OMEGA 1#	CAPSULE	NNA	US	12 SEP	15 SEP 61 **
OMEGA 2	METAL OBJECT	185	US	12 SEP	18 SEP 61
OMEGA 3	METAL OBJECT	187	US	12 SEP	28 SEP 61
A-ALPHA 1	MA-4	183	US	13 SEP	13 SEP 61 **
A-ALPHA 2	ROCKET BODY	184	US	13 SEP	13 SEP 61
A-BETA 1	DISCOVERER 31	186	US	17 SEP	26 OCT 61
A-GAMMA 1	DISCOVERER 32	189	US	13 OCT	13 NOV 61
A-GAMMA 1	CAPSULE	NNA	US	13 OCT	14 OCT 61 **
A-GAMMA 2	METAL OBJECT	190	US	13 OCT	25 OCT 61 **
A-GAMMA 3	METAL OBJECT	191	US	13 OCT	16 OCT 61
A-DELTA 2		193	US	21 OCT	5 DEC 61
A-EPSILON 1	DISCOVERER 34	197	US	5 NOV	7 DEC 62
A-EPSILON 2	METAL OBJECT	198	US	5 NOV	30 NOV 61
A-EPSILON 3	METAL OBJECT	199	US	5 NOV	9 DEC 61

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1961 LAUNCHES (CONT'D)					
A-EPSILON 4	METAL OBJECT	200	US	5 NOV	10 DEC 61
A-EPSILON 5	METAL OBJECT	203	US	5 NOV	12 DEC 61
A-ZETA 1	DISCOVERER 35	201	US	15 NOV	3 DEC 61
A-ZETA 1#	CAPSULE	NNA	US	15 NOV	16 NOV 61**
A-ZETA 2	METAL OBJECT	207	US	15 NOV	23 NOV 61
A-THETA 1	RANGER 2	206	US	18 NOV	20 NOV 61
A-IOTA 1	MA-5	208	US	29 NOV	29 NOV 61 **
A-IOTA 2	ROCKET BODY	209	US	29 NOV	30 NOV 61
A-KAPPA 1	DISCOVERER 36	213	US	12 DEC	8 MAR 62
A-KAPPA 1#	CAPSULE	NNA	US	12 DEC	16 DEC 61 **
A-KAPPA 2	OSCAR 1	214	US	12 DEC	31 JAN 62
A-KAPPA 3	METAL OBJECT	215	US	12 DEC	19 DEC 61
A-LAMBDA 1		217	US	22 DEC	14 AUG 62
A-LAMBDA 2		218	US	22 DEC	31 DEC 61
A-LAMBDA 3		219	US	22 DEC	9 JAN 62
1962 LAUNCHES					
GAMMA 1	FRIENDSHIP 7	240	US	20 FEB	20 FEB 62*****
GAMMA 2	ROCKET BODY	241	US	20 FEB	21 FEB 62
DELTA 1		242	US	21 FEB	4 MAR 62
EPSILON 1	DISCOVERER 38	247	US	27 FEB	21 MAR 62
EPSILON 1#	CAPSULE	NNA	US	27 FEB	3 MAR 62 **
EPSILON 2	ROCKET BODY	248	US	27 FEB	3 MAR 62
EPSILON 3	METAL OBJECT	249	US	27 FEB	3 MAR 62
EPSILON 4	METAL OBJECT	251	US	27 FEB	7 MAR 62
ETA 1		256	US	7 MAR	7 JUN 63
ETA 2		258	US	7 MAR	31 MAR 62

DECAYED OBJECTS (CONT'D)

<u>OBJECTS</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1962 LAUNCHES (CONT'D)					
ETA 3		259	US	7 MAR	3 NOV 62
THETA 1	COSMOS 1	266	USSR	16 MAR	25 MAY 62
THETA 2	ROCKET BODY	267	USSR	16 MAR	18 JUN 62
IOTA 1	COSMOS 2	269	USSR	6 APR	19-20 AUG 63
IOTA 2	ROCKET BODY	270	USSR	6 APR	6 OCT 62
KAPPA 2		272	US	9 APR	4 MAY 62
LAMBDA 1		276	US	18 APR	28 MAY 62
LAMBDA 2		277	US	18 APR	20 APR 62
LAMBDA 3		278	US	18 APR	21 APR 62
LAMBDA 4		279	US	18 APR	21 APR 62
MU 1	RANGER 4	280	US	23 APR	26 APR 62*****
NU 1	COSMOS 3	281	USSR	24 APR	17 OCT 62
NU 2	ROCKET BODY	283	USSR	24 APR	5 AUG 62
XI 1	COSMOS 4	287	USSR	26 APR	29 APR 62
XI 2	ROCKET BODY	284	USSR	26 APR	17 JUN 62
XI 3	METAL OBJECT	289	USSR	26 APR	3 MAY 62
PI 1		286	US	26 APR	28 APR 62
RHO 1		290	US	29 APR	26 MAY 62
RHO 2		291	US	29 APR	1 MAY 62
SIGMA 1		292	US	15 MAY	26 NOV 63
SIGMA 2		293	US	15 MAY	3 JUL 62
SIGMA 3		294	US	15 MAY	13 JUL 62
TAU 1	AURORA 7	295	US	24 MAY	24 MAY 62*****
TAU 2	ROCKET BODY	296	US	24 MAY	25 MAY 62
UPSILON 1	COSMOS 5	297	USSR	28 MAY	2 MAY 63
UPSILON 2	ROCKET BODY	298	USSR	28 MAY	15 DEC 62
PHI 1		302	US	30 MAY	11 JUN 62
PHI 2		303	US	30 MAY	2 JUN 62

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1962 LAUNCHES (CONT'D)					
CHI 1		304	US	2 JUN	28 JUN 62
CHI 2	OSCAR 2	305	US	2 JUN	21 JUN 62
CHI 3		306	US	2 JUN	6 JUN 62
PSI 1		307	US	17 JUN	18 JUN 62
OMEGA 1		308	US	18 JUN	29-30 OCT 63
OMEGA 2		310	US	18 JUN	12 JUL 62
OMEGA 3		314	US	18 JUN	14 JUL 62
A-BETA 1		315	US	23 JUN	7 JUL 62
A-GAMMA 1		316	US	28 JUN	14 SEP 62
A-DELTA 1	COSMOS 6	338	USSR	30 JUN	8 AUG 62
A-DELTA 2	ROCKET BODY	339	USSR	30 JUN	8 SEP 62
A-ZETA 1		342	US	18 JUL	25 JUL 62
A-ZETA 2		343	US	18 JUL	27 JUL 62
A-ETA 1		344	US	21 JUL	14 AUG 62
A-THETA 1		345	US	28 JUL	24 AUG 62
A-IOTA 1	COSMOS 7	346	USSR	28 JUL	1 AUG 62
A-IOTA 2	ROCKET BODY	347	USSR	28 JUL	21 AUG 62
A-IOTA 3	METAL OBJECT	348	USSR	28 JUL	31 JUL 62
A-IOTA 4	METAL OBJECT	349	USSR	28 JUL	30 JUL 62
A-KAPPA 1		360	US	2 AUG	26 AUG 62
A-KAPPA 2		362	US	2 AUG	8 AUG 62
A-LAMBDA 1		361	US	5 AUG	6 AUG 62
A-MU 1	VOSTOK 3	363	USSR	11 AUG	15 AUG 62****
A-MU 2	ROCKET BODY	364	USSR	11 AUG	14 AUG 62
A-NU 1	VOSTOK 4	365	USSR	12 AUG	15 AUG 62****
A-NU 2	ROCKET BODY	366	USSR	12 AUG	14 AUG 62
A-XI 1	COSMOS 8	367	USSR	18 AUG	17 AUG 63

DECAYED OBJECTS' (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1962 LAUNCHES CONT'D					
A XI 2	ROCKET BODY	368	USSR	18 AUG	19 DEC 62
A FI 1		371	USSR	25 AUG	28 AUG 62
A FI 2		372	USSR	25 AUG	2 SEP 62
A FI 3		379	USSR	25 AUG	31 AUG 62
A FI 4		379	USSR	25 AUG	5 SEP 62
A FI 5		380	USSR	25 AUG	30 AUG 62
A FI 6		376	USSR	25 AUG	6 SEP 62
A FI 7		386	USSR	25 AUG	8 SEP 62
A FI 8		387	USSR	25 AUG	5 SEP 62
A SIGMA 1		377	US	29 AUG	10 SEP 62
A TAU 1		381	USSR	1 SEP	6 SEP 62
A TAU 2		382	USSR	1 SEP	3 SEP 62
A TAU 3		383	USSR	1 SEP	3 SEP-1 OCT 62
A TAU 4		384	USSR	1 SEP	21 SEP 62
A UPSILON 1		385	US	1 SEP	26 OCT 64
A PHI 1		389	USSR	12 SEP	14 SEP 62
A PHI 2		390	USSR	12 SEP	12 SEP 62
A PHI 3		391	USSR	12 SEP	17 SEP 62
A PHI 4		392	USSR	12 SEP	13 SEP 62
A PHI 5		393	USSR	12 SEP	13 SEP 62
A PHI 6		394	USSR	12 SEP	16 SEP 62
A PHI 7		395	USSR	12 SEP	15 SEP 62
A CHI 1		396	US	17 SEP	16 NOV 62
A OMEGA 1		422	USSR	27 SEP	1 OCT 62
A OMEGA 2		423	USSR	27 SEP	22 DEC 62
A OMEGA 3		425	USSR	27 SEP	6 OCT 62
A OMEGA 4		428	USSR	27 SEP	8 OCT 62
A OMEGA 5		429	USSR	27 SEP	4 OCT 62
A OMEGA 6		430	USSR	27 SEP	8 OCT 62

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1962 LAUNCHES (CONT'D)					
A-OMEGA 7		431	USSR	27 SEP	3 OCT 62
A-OMEGA 8		435	USSR	27 SEP	6 OCT 62
B-BETA 1		427	US	29 SEP	14 OCT 62
B-DELTA 1	SIGMA 7	433	US	3 OCT	3 OCT 62*****
B-DELTA 2	ROCKET BODY	434	US	3 OCT	4 OCT 62
B-EPSILON 1		436	US	9 OCT	16 NOV 62
B-ZETA 1		437	USSR	17 OCT	21 OCT 62
B-ZETA 2		438	USSR	17 OCT	5 NOV 62
B-THETA 1		441	USSR	20 OCT	18 MAY 64
B-THETA 2		442	USSR	20 OCT	5 JUN 63
B-IOTA 1		443	USSR	24 OCT	29 OCT 62
B-IOTA 2		456	USSR	24 OCT	22 DEC 62
B-IOTA 3		457	USSR	24 OCT	26 FEB 63
B-IOTA 4		458	USSR	24 OCT	29 NOV 62
B-IOTA 5		459	USSR	24 OCT	24 DEC 62
B-IOTA 6		460	USSR	24 OCT	8 DEC 62
B-IOTA 7		482	USSR	24 OCT	10 DEC 62
B-IOTA 8		483	USSR	24 OCT	2 JAN 63
B-IOTA 9		484	USSR	24 OCT	4 DEC 62
B-IOTA 10		485	USSR	24 OCT	10 DEC 62
B-IOTA 11		486	USSR	24 OCT	30 NOV 62
B-IOTA 12		487	USSR	24 OCT	1 DEC 62
B-IOTA 13		491	USSR	24 OCT	25 DEC 62
B-IOTA 14		492	USSR	24 OCT	15 DEC 62
B-IOTA 15		493	USSR	24 OCT	21 DEC 62
B-IOTA 16		494	USSR	24 OCT	17 DEC 62
B-IOTA 17		495	USSR	24 OCT	26 DEC 62
B-IOTA 18		496	USSR	24 OCT	23 DEC 62
B-IOTA 19		497	USSR	24 OCT	26 DEC 62

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1962 LAUNCHES (CONT'D)					
B-IOTA 20		498	USSR	24 OCT	10 DEC 62
B-IOTA 21		499	USSR	24 OCT	9 DEC 62
B-IOTA 22		500	USSR	24 OCT	28 DEC 62
B-IOTA 23		501	USSR	24 OCT	26 DEC 62
B-IOTA 24		512	USSR	24 OCT	31 DEC 62
B-NU 1		448	USSR	1 NOV	2-3 NOV 62
B-NU 2		449	USSR	1 NOV	3 NOV 62
B-XI 1		451	USSR	4 NOV	5 NOV 62
B-XI 2		452	USSR	4 NOV	8 NOV 62
B-XI 3		454	USSR	4 NOV	19 JAN 63
B-XI 4		488	USSR	4 NOV	25 DEC 62
B-XI 5		489	USSR	4 NOV	27 DEC 62
B-OMICRON 1		453	US	5 NOV	3 NOV 62
B-PI 1		455	US	11 NOV	12 NOV 62
B-RHO 1		481	US	24 NOV	13 DEC 52
B-SIGMA 1		490	US	4 DEC	8 DEC 62
B-TAU 3		507	US	13 DEC	1 JUL 63
B-PHI 1		505	US	14 DEC	8 JAN 63
B-OMEGA 1		517	USSR	22 DEC	30 DEC 62
B-OMEGA 2		518	USSR	22 DEC	22 JAN 63
1963 LAUNCHES					
1963 01A		521	USSR	4 JAN	5 JAN 63
1963 01B		522	USSR	4 JAN	11 JAN 63
1963 01C		524	USSR	4 JAN	11 JAN 63

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1963 LAUNCHES (CONT'D)					
1963 02A		525	US	7 JAN	24 JAN 63
1963 02B		526	US	7 JAN	16 JAN 63
1963 03B		528	US	16 JAN	8 NOV 63
1963 03C		529	US	16 JAN	31 DEC 63
1963 06A		554	USSR	21 MAR	29 MAR 63
1963 06B		555	USSR	21 MAR	9 APR 63
1963 07A		562	US	1 APR	26 APR 63
1963 08A		563	USSR	2 APR	3 APR 63
1963 09B		565	US	3 APR	24 NOV 63
1963 10A		567	USSR	13 APR	29 AUG 63
1963 10B		568	USSR	13 APR	6 JUL 63
1963 11A		569	USSR	22 APR	27 APR 63
1963 11B		570	USSR	22 APR	1 MAY 63
1963 12A		571	USSR	28 APR	8 MAY 63
1963 12B		572	USSR	28 APR	20 MAY 63
1963 15A	FAITH 7	576	US	15 MAY	16 MAY 63*****
1963 15B		577	US	15 MAY	16 MAY 63
1963 16A	ROCKET BODY	578	US	18 MAY	27 MAY 63
1963 17B		581	USSR	22 MAY	26 AUG 63
1963 17D		583	USSR	22 MAY	30 AUG 63
1963 17E		584	USSR	22 MAY	25 JUL 63
1963 17F		585	USSR	22 MAY	30 SEP 63
1963 17G		588	USSR	22 MAY	2 APR 64
1963 18A		586	USSR	24 MAY	2 JUN 63
1963 18B		587	USSR	24 MAY	8 JUN 63
1963 19A		590	US	12 JUN	12 JUN 63
1963 20A	VOSTOK 5	591	USSR	14 JUN	19 JUN 63****

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1963 LAUNCHES (CONT'D)					
1963 20B		592	USSR	14 JUN	16 JUN 63
1963 21A		593	US	15 JUN	7 AUG 63
1963 21B	LOFTI 2A	601	US	15 JUN	18 JUL 63
1963 21C	SOLAR RADIATION	599	US	15 JUN	1 AUG 63
1963 21D		600	US	15 JUN	30 JUL 63
1963 21E		598	US	15 JUN	27 JUL 63
1963 21F		597	US	15 JUN	5 JUL 63
1963 21G		617	US	15 JUN	3 JUL 63
1963 23A	VOSTOK 6	595	USSR	16 JUN	19 JUN 63***
1963 23B		596	USSR	16 JUN	18 JUN 63
1963 25A		609	US	27 JUN	26 JUL 63
1963 27B		615	US	29 JUN	14-15 NOV 64
1963 27C		616	US	29 JUN	10 JUL 63
1963 28A		618	US	12 JUL	18 JUL 63
1963 28B		619	US	12 JUL	13 JUL 63
1963 28C		620	US	12 JUL	16 JUL 63
1963 29A		621	US	18 JUL	13 AUG 63
1963 29B		623	US	18 JUL	29 JUL 63
1963 32A		626	US	31 JUL	11 AUG 63
1963 32B		627	US	31 JUL	10 AUG 63
1963 33A		632	USSR	6 AUG	30 MAR 64
1963 33B		633	USSR	6 AUG	8-9 DEC 63
1963 34A		636	US	24 AUG	12 SEP 63
1963 34B		642	US	24 AUG	8 SEP 63
1963 35A		637	US	29 AUG	7 NOV 63
1963 35B		638	US	29 AUG	23-29 SEP 63
1963 35C		639	US	29 AUG	2 SEP 63
1963 35D		640	US	29 AUG	1 SEP 63
1963 36A		641	US	6 SEP	13 SEP 63
1963 36B		663	US	6 SEP	13-14 SEP 63
1963 36C		664	US	6 SEP	10 SEP 63

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1963 LAUNCHES (CONT'D)					
1963 36D		665	US	6 SEP	8 SEP 63
1963 36E		666	US	6 SEP	10-11 SEP 63
1963 36F		667	US	6 SEP	10 SEP 63
1963 37A		668	US	24 SEP	12 OCT 63
1963 40A		673	USSR	18 OCT	28-29 OCT 63
1963 40B		676	USSR	18 OCT	30-31 OCT 63
1963 41A	COSMOS 20	677	US	25 OCT	29 OCT 63
1963 41B		678	US	25 OCT	28-29 OCT 63
1963 41C		679	US	25 OCT	28-29 OCT 63
1963 41D		680	US	25 OCT	28-29 OCT 63
1963 42A		681	US	29 OCT	21 JAN 64
1963 43C		691	US	29 OCT	27 NOV 63
1963 44A	COSMOS 21	687	USSR	11 NOV	14 NOV 63
1963 44B		688	USSR	11 NOV	12 NOV 63
1963 45A	COSMOS 22	689	USSR	16 NOV	22 NOV 63
1963 45B		690	USSR	16 NOV	3 DEC 63
1963 48A		695	US	27 NOV	15 DEC 63
1963 50A	COSMOS 23	707	USSR	13 DEC	27 MAR 64
1963 50B		708	USSR	13 DEC	6 MAR 64
1963 50C		709	USSR	13 DEC	3 JAN 64
1963 50D		710	USSR	13 DEC	1 JAN 64
1963 51A		711	US	18 DEC	20 DEC 63
1963 52A	COSMOS 24	712	USSR	19 DEC	28 DEC 63
1963 52B		713	USSR	19 DEC	25 JAN 64
1963 55A		718	US	21 DEC	8 JAN 64
1963 55B		719	US	21 DEC	7 NOV 64
1964 LAUNCHES					
1964 07A	RANGER 6	747	US	30 JAN	2 FEB 64*****
1964 08A		752	US	15 FEB	9 MAR 64
1964 08B		755	US	15 FEB	21 FEB 64
1964 09A		754	US	25 FEB	1 MAR 64
1964 09B		756	US	25 FEB	26 FEB 64

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
<u>1964 LAUNCHES (CONT'D)</u>					
1964 10A	COSMOS 25	757	USSR	27 FEB	21 NOV 64
1964 10B		758	USSR	27 FEB	18 JUN 64
1964 10C		762	USSR	27 FEB	4 MAR 64
1964 10D		763	USSR	27 FEB	22 APR 64
1964 12A		764	US	11 MAR	16 MAR 64
1964 12B		765	US	11 MAR	12 MAR 64
1964 13A	COSMOS 26	776	USSR	18 MAR	28 SEP 64
1964 13B		767	USSR	18 MAR	17 MAY 64
1964 13C		768	USSR	18 MAR	20-22 APR 64
1964 13D		769	USSR	18 MAR	24-25 MAR 64
1964 14A	COSMOS 27	770	USSR	27 MAR	28 MAR 64
1964 14B		772	USSR	27 MAR	29 MAR 64
1964 14C		773	USSR	27 MAR	30-31 MAR 64
1964 14D		774	USSR	27 MAR	3-4 APR 64
1964 16A		776	USSR	2 APR	3 APR 64
1964 16B		777	USSR	2 APR	2 APR 64
1964 16C		778	USSR	2 APR	5 APR 64
1964 17A	COSMOS 28	779	USSR	4 APR	12 APR 64
1964 17B		780	USSR	4 APR	3 MAY 64
1964 17C		781	USSR	4 APR	6-7 APR 64
1964 18A	GEMINI 1	782	US	8 APR	12 APR 64
1964 19A		783	USSR	12 APR	30 APR-1 MAY 64
1964 20A		786	US	23 APR	28-29 APR 64
1964 20B		787	US	23 APR	26 APR 64
1964 20C		788	US	23 APR	25 APR 64
1964 20D		789	US	23 APR	25 APR 64
1964 20E		790	US	23 APR	25 APR 64
1964 21A	COSMOS 29	791	USSR	25 APR	2 MAY 64
1964 21B		792	USSR	25 APR	11 MAY 64
1964 21C		793	USSR	25 APR	26-27 APR 64
1964 21D		794	USSR	25 APR	27-28 APR 64
1964 21E		795	USSR	25 APR	27 APR 64

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1964 LAUNCHES (CONT'D)					
1964 22A		796	US	27 APR	26 MAY 64
1964 23A	COSMOS 30	797	USSR	18 MAY	26 MAY 64
1964 23B		798	USSR	18 MAY	7 JUN 64
1964 24A		799	US	19 MAY	22 MAY 64
1964 25A	SATURN 6	800	US	28 MAY	1 JUN 64
1964 27A		802	US	4 JUN	18 JUN 64
1964 28A	COSMOS 31	803	USSR	6 JUN	20 OCT 64
1964 28B		804	USSR	6 JUN	16 AUG 64
1964 29A	COSMOS 32	807	USSR	10 JUN	18 JUN 64
1964 29B		808	USSR	10 JUN	14 JUL 64
1964 29C		810	USSR	10 JUN	12 JUN 64
1964 30B		820	US	13 JUN	7 AUG 64
1964 32A		814	US	19 JUN	16 AUG 64
1964 32B		821	US	19 JUN	2 JUL 64
1964 33A	COSMOS 33	816	USSR	23 JUN	1 JUL 64
1964 33B		817	USSR	23 JUN	10 JUL 64
1964 33C		818	USSR	23 JUN	24 JUN 64
1964 33D		819	USSR	23 JUN	24 JUN 64
1964 34A	COSMOS 34	822	USSR	1 JUL	9 JUL 64
1964 34B		823	USSR	1 JUL	15 JUL 64
1964 36A		825	US	6 JUL	8 JUL 64
1964 36B		826	US	6 JUL	3 JAN 65
1964 36C		827	US	6 JUL	19 JUL 64
1964 37A		828	US	10 JUL	6 JUL 64
1964 39A	COSMOS 35	833	USSR	15 JUL	23 JUL 64
1964 39B		834	USSR	15 JUL	1 AUG 64
1964 39C		835	USSR	15 JUL	31 JUL 64
1964 39D		839	USSR	15 JUL	25 JUL 64
1964 41A	RANGER 7	842	US	28 JUL	31 JUL 64****
1964 42A	COSMOS 36	844	USSR	30 JUL	28 FEB 65
1964 42B		845	USSR	30 JUL	29 NOV 64
1964 43A		846	US	5 AUG	31 AUG-1 SEP 64
1964 44A	COSMOS 37	848	USSR	14 AUG	22 SEP 64
1964 44B		849	USSR	14 AUG	3 SEP 64

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1964 LAUCHES (CONT'D)					
1964 45A		850	US	14 AUG	23 SEP 64
1964 45C		852	US	14 AUG	16 AUG 64
1964 46A	COSMOS 38	853	USSR	18 AUG	8 NOV 64
1964 46B	COSMOS 39	854	USSR	18 AUG	17 NOV 64
1964 46C	COSMOS 40	855	USSR	18 AUG	18 NOV 64
1964 46D		856	USSR	18 AUG	19 FEB 65
1964 46E		857	USSR	18 AUG	10 SEP 64
1964 46F		859	USSR	18 AUG	6 SEP 64
1964 46G		860	USSR	18 AUG	6 SEP 64
1964 49A		863	USSR	22 AUG	15 SEP 64
1964 49B	COSMOS 41	865	USSR	22 AUG	28 SEP 64
1964 49C		868	USSR	22 AUG	30 AUG 64
1964 55A		880	USSR	13 SEP	18 SEP 64
1964 55B		881	USSR	13 SEP	27 SEP 64
1964 56A		882	US	14 SEP	6 OCT 64
1964 56B		888	US	14 SEP	22 SEP 64
1964 57A	SATURN 7	883	US	18 SEP	22 SEP 64
1964 58A		884	US	23 SEP	28 SEP 64
1964 58B		887	US	23 SEP	26 SEP 64
1964 59A	COSMOS 46	885	USSR	24 SEP	2 OCT 64
1964 59B		886	USSR	24 SEP	7 OCT 64
1964 61A		890	US	5 OCT	26 OCT 64
1964 62A	COSMOS 47	891	USSR	6 OCT	7 OCT 64
1964 62B		892	USSR	6 OCT	13-14 OCT 64
1964 62C		894	USSR	6 OCT	9 OCT 64
1964 62D		895	USSR	6 OCT	12 OCT 64
1964 62E		896	USSR	6 OCT	9 OCT 64
1964 65A	VOSKHOD 1	904	USSR	12 OCT	13 OCT 64
1964 65B		905	USSR	12 OCT	20 OCT 64
1964 65C		906	USSR	12 OCT	13 OCT 64

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1964 LAUNCHES (CONT'D)					
1964 66A	COSMOS 48	908	USSR	14 OCT	20 OCT 64
1964 66B		909	USSR	14 OCT	28 OCT 64
1964 66C		910	USSR	14 OCT	16 OCT 64
1964 67A		911	US	17 OCT	4 NOV 64
1964 68A		912	US	23 OCT	28 OCT 64
1964 68B		914	US	23 OCT	23 FEB 65
1964 68C		916	US	23 OCT	3-4 NOV 64
1964 68D		918	US	23 OCT	29 OCT 64
1964 69C		917	USSR	24 OCT	17 NOV 64
1964 69B		915	USSR	24 OCT	10 FEB 65
1964 70A	COSMOS 50	919	USSR	28 OCT	5 NOV 64
1964 70B		920	USSR	28 OCT	1-2 NOV 64
1964 70C		928	USSR	28 OCT	13 NOV 64
1964 70D		929	USSR	28 OCT	15 NOV 64
1964 70E		989	USSR	28 OCT	13 NOV 64
1964 70F		990	USSR	28 OCT	11 NOV 64
1964 70G		991	USSR	28 OCT	8 NOV 64
1964 70H		992	USSR	28 OCT	13 NOV 64
1964 70J		993	USSR	28 OCT	12 NOV 64
1964 70K		994	USSR	28 OCT	13 NOV 64
1964 70L		995	USSR	28 OCT	11 NOV 64
1964 70M		996	USSR	28 OCT	12 NOV 64
1964 70N		997	USSR	28 OCT	14 NOV 64
1964 70P		998	USSR	28 OCT	10 NOV 64
1964 70Q		999	USSR	28 OCT	12 NOV 64
1964 70R		1003	USSR	28 OCT	11 NOV 64

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1964 LAUNCHES (CONT'D)					
1964 70S		1004	USSR	28 OCT	14 NOV 64
1964 70T		1005	USSR	28 OCT	12 NOV 64
1964 70U		1006	USSR	28 OCT	12 NOV 64
1964 70V		1007	USSR	28 OCT	12 NOV 64
1964 70W		1008	USSR	28 OCT	12 NOV 64
1964 70X		1009	USSR	28 OCT	13 NOV 64
1964 70Y		1010	USSR	28 OCT	13 NOV 64
1964 70Z		1011	USSR	28 OCT	9 NOV 64
1964 70AA		1012	USSR	28 OCT	10 NOV 64
1964 70AB		1013	USSR	28 OCT	9 NOV 64
1964 70AC		1014	USSR	28 OCT	17 NOV 64
1964 70AD		1015	USSR	28 OCT	12 NOV 64
1964 70AE		1016	USSR	28 OCT	13 NOV 64
1964 70AF		1017	USSR	28 OCT	11 NOV 64
1964 70AG		1018	USSR	28 OCT	13 NOV 64
1964 70AH		1019	USSR	28 OCT	11 NOV 64
1964 70AJ		1020	USSR	28 OCT	14 NOV 64
1964 70AK		1021	USSR	28 OCT	13 NOV 64
1964 70AL		1022	USSR	28 OCT	12 NOV 64
1964 70AM		1023	USSR	28 OCT	12 NOV 64
1964 70AN		1024	USSR	28 OCT	14 NOV 64
1964 70AP		1025	USSR	28 OCT	13 NOV 64
1964 70AQ		1026	USSR	28 OCT	12 NOV 64
1964 70AR		1027	USSR	28 OCT	12 NOV 64
1964 70AS		1028	USSR	28 OCT	13 NOV 64
1964 70AT		1029	USSR	28 OCT	12 NOV 64
1964 70AU		1030	USSR	28 OCT	13 NOV 64

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1964 LAUNCHES (CONT'D)					
1964 70AV		1031	USSR	28 OCT	13 NOV 64
1964 70AW		1032	USSR	28 OCT	16 NOV 64
1964 70AX		1033	USSR	28 OCT	11 NOV 64
1964 70AY		1034	USSR	28 OCT	9 NOV 64
1964 70AZ		1035	USSR	28 OCT	13 NOV 64
1964 70BA		1036	USSR	28 OCT	12 NOV 64
1964 70BB		1037	USSR	28 OCT	12 NOV 64
1964 70BC		1038	USSR	28 OCT	15 NOV 64
1964 70BD		1039	USSR	28 OCT	13 NOV 64
1964 70BE		1040	USSR	28 OCT	13 NOV 64
1964 70BF		1041	USSR	28 OCT	12 NOV 64
1964 70BG		1042	USSR	28 OCT	13 NOV 64
1964 70BH		1043	USSR	28 OCT	12 NOV 64
1964 70BJ		1044	USSR	28 OCT	17 NOV 64
1964 70BK		1045	USSR	28 OCT	17 NOV 64
1964 70BL		1046	USSR	28 OCT	12 NOV 64
1964 70BM		1047	USSR	28 OCT	11 NOV 64
1964 70BN		1048	USSR	28 OCT	14 NOV 64
1964 70BP		1049	USSR	28 OCT	15 NOV 64
1964 70BQ		1050	USSR	28 OCT	14 NOV 64
1964 70BR		1051	USSR	28 OCT	12 NOV 64
1964 70BS		1052	USSR	28 OCT	13 NOV 64
1964 70BT		1053	USSR	28 OCT	13 NOV 64
1964 70BU		1054	USSR	28 OCT	13 NOV 64
1964 70BV		1055	USSR	28 OCT	11 NOV 64
1964 70BW		1056	USSR	28 OCT	13 NOV 64
1964 70BX		1057	USSR	28 OCT	12 NOV 64
1964 70BY		1058	USSR	28 OCT	13 NOV 64
1964 70BZ		1059	USSR	28 OCT	11 NOV 64
1964 70CA		1060	USSR	28 OCT	10 NOV 64
1964 70CB		1061	USSR	28 OCT	9 NOV 64
1964 70CC		1062	USSR	28 OCT	16 NOV 64

DECAYED OBJECTS (CONT 'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1964 LAUNCHES (CONT 'D)					
1964 70CD		1063	USSR	28 OCT	11 NOV 64
1964 70CE		1064	USSR	28 OCT	15 NOV 64
1964 70CF		1065	USSR	28 OCT	17 NOV 64
1964 70CG		1066	USSR	28 OCT	11 NOV 64
1964 70CH		1067	USSR	28 OCT	17 NOV 64
1964 70CJ		1068	USSR	28 OCT	14 NOV 64
1964 70CK		1069	USSR	28 OCT	16 NOV 64
1964 70CL		1070	USSR	28 OCT	13 NOV 64
1964 70CM		1071	USSR	28 OCT	12 NOV 64
1964 70CN		1072	USSR	28 OCT	10 NOV 64
1964 70CP		1073	USSR	28 OCT	12 NOV 64
1964 70CQ		1074	USSR	28 OCT	13 NOV 64
1964 70CR		1075	USSR	28 OCT	13 NOV 64
1964 70CS		1076	USSR	28 OCT	13 NOV 64
1964 70CT		1077	USSR	28 OCT	14 NOV 64
1964 70CU		1078	USSR	28 OCT	12 NOV 64
1964 70CV		1079	USSR	28 OCT	12 NOV 64
1964 70CW		1080	USSR	28 OCT	17 NOV 64
1964 70CX		1081	USSR	28 OCT	11 NOV 64
1964 70CY		1082	USSR	28 OCT	11 NOV 64
1964 70CZ		1083	USSR	28 OCT	11 NOV 64
1964 70DA		1084	USSR	28 OCT	11 NOV 64
1964 71A		921	US	2 NOV	28 NOV 64
1964 75B		930	US	18 NOV	6 DEC 64
1964 78A		943	USSR	30 NOV	1 DEC 64
1964 78B		944	USSR	30 NOV	2 DEC 64
1964 79A		946	US	4 DEC	5 DEC 64
1964 80C		950	USSR	9 DEC	29 DEC 64
1964 80D		952	USSR	9 DEC	1 JAN 65
1964 80E		954	USSR	9 DEC	1 JAN 65
1964 80F		955	USSR	9 DEC	2 JAN 65
1964 81A		949	US	10 DEC	13 DEC 64

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1964 LAUNCHES (CONT'D)					
1964 82A	CENTAUR 4	951	US	11 DEC	12 DEC 64
1964 84B		958	US	15 DEC	6-7 FEB 65
1964 84C		962	US	15 DEC	21 JAN 65
1964 85A		961	US	19 DEC	14 JAN 65
1964 87A		964	US	21 DEC	11 JAN 65
1965 LAUNCHES					
1965 01A	COSMOS 52	968	USSR	11 JAN	19 JAN 65
1965 01B		969	USSR	11 JAN	29 JAN 65
1965 01C		970	USSR	11 JAN	13-14 JAN 65
1965 01D		971	USSR	11 JAN	13-14 JAN 65
1965 02A		972	US	15 JAN	9 FEB 65
1965 02B		982	US	15 JAN	30 JAN 65
1965 05A		980	US	23 JAN	28-29 JAN 65
1965 05B		981	US	23 JAN	25 JAN 65
1965 06C		985	USSR	30 JAN	4-5 MAR 65
1965 06D		986	USSR	30 JAN	4 MAR 65
1965 10A	RANGER 8	1086	US	17 FEB	20 FEB 65 *****
1965 12A	COSMOS 57	1093	USSR	22 FEB	22 FEB 65
1965 12B		1095	USSR	22 FEB	5-6 MAR 65
1965 12C		1100	USSR	22 FEB	9 MAR 65
1965 12D		1101	USSR	22 FEB	25 FEB 65
1965 12E		1102	USSR	22 FEB	26 FEB 65
1965 12F		1103	USSR	22 FEB	2 MAR 65
1965 12G		1104	USSR	22 FEB	10 MAR 65
1965 12H		1105	USSR	22 FEB	25 FEB 65
1965 12J		1106	USSR	22 FEB	2 MAR 65
1965 12K		1107	USSR	22 FEB	25 MAR 65

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1965 LAUNCHES (CONT'D)					
1965 12L		1108	USSR	22 FEB	1 MAR 65
1965 12M		1109	USSR	22 FEB	26 FEB 65
1965 12N		1110	USSR	22 FEB	27 FEB 65
1965 12P		1111	USSR	22 FEB	2 MAR 65
1965 12Q		1112	USSR	22 FEB	1 MAR 65
1965 12R		1113	USSR	22 FEB	25 FEB 65
1965 12S		1114	USSR	22 FEB	3 MAR 65
1965 12T		1115	USSR	22 FEB	27 FEB 65
1965 12U		1116	USSR	22 FEB	4 MAR 65
1965 12V		1117	USSR	22 FEB	2 MAR 65
1965 12W		1118	USSR	22 FEB	1 MAR 65
1965 12X		1119	USSR	22 FEB	1 MAR 65
1965 12Y		1120	USSR	22 FEB	2 MAR 65
1965 12Z		1121	USSR	22 FEB	1 MAR 65
1965 12AA		1122	USSR	22 FEB	1 MAR 65
1965 12AB		1123	USSR	22 FEB	27 FEB 65
1965 12AC		1124	USSR	22 FEB	2 MAR 65
1965 12AD		1125	USSR	22 FEB	2 MAR 65
1965 12AE		1126	USSR	22 FEB	1 MAR 65
1965 12AF		1127	USSR	22 FEB	28 FEB 65
1965 12AG		1128	USSR	22 FEB	5 MAR 65
1965 12AH		1129	USSR	22 FEB	5 MAR 65
1965 12AJ		1130	USSR	22 FEB	11 MAR 65
1965 12AK		1131	USSR	22 FEB	7 MAR 65
1965 12AL		1132	USSR	22 FEB	7 MAR 65
1965 12AP		1135	USSR	22 FEB	13 MAR 65
1965 12AR		1137	USSR	22 FEB	9 MAR 65
1965 12AS		1138	USSR	22 FEB	8 MAR 65
1965 12AT		1139	USSR	22 FEB	10 MAR 65
1965 12AV		1141	USSR	22 FEB	10 MAR 65
1965 12BC		1148	USSR	22 FEB	11 MAR 65
1965 12BF		1151	USSR	22 FEB	10 MAR 65
1965 12BH		1153	USSR	22 FEB	7 MAR 65

DECAYED OBJECTS (CONT'D)

<u>OBJECT</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1965 LAUNCHES (CONT'D)				
1965 12BJ	1154	USSR	22 FEB	7 MAR 65
1965 12BK	1155	USSR	22 FEB	7 MAR 65
1965 12BM	1157	USSR	22 FEB	13 MAR 65
1965 12BN	1158	USSR	22 FEB	4 MAR 65
1965 12BQ	1160	USSR	22 FEB	4 MAR 65
1965 12BR	1161	USSR	22 FEB	5 MAR 65
1965 12BT	1163	USSR	22 FEB	5 MAR 65
1965 12BU	1164	USSR	22 FEB	13 MAR 65
1965 12BV	1165	USSR	22 FEB	9 MAR 65
1965 12BW	1166	USSR	22 FEB	7 MAR 65
1965 12BY	1168	USSR	22 FEB	6 MAR 65
1965 12BZ	1169	USSR	22 FEB	5 MAR 65
1965 12CA	1170	USSR	22 FEB	4 MAR 65
1965 12CB	1171	USSR	22 FEB	5 MAR 65
1965 12CC	1172	USSR	22 FEB	5 MAR 65
1965 12CD	1173	USSR	22 FEB	4 MAR 65
1965 12CF	1175	USSR	22 FEB	5 MAR 65
1965 12CG	1176	USSR	22 FEB	5 MAR 65
1965 12CJ	1178	USSR	22 FEB	5 MAR 65
1965 12CL	1180	USSR	22 FEB	4 MAR 65
1965 12CM	1181	USSR	22 FEB	6 MAR 65
1965 12CN	1182	USSR	22 FEB	7 MAR 65
1965 12CP	1183	USSR	22 FEB	8 MAR 65
1965 12CQ	1184	USSR	22 FEB	7 MAR 65
1965 12CR	1185	USSR	22 FEB	11 MAR 65
1965 12CS	1186	USSR	22 FEB	1 MAR 65
1965 12CT	1187	USSR	22 FEB	1 MAR 65
1965 12CU	1188	USSR	22 FEB	1 MAR 65
1965 12CV	1189	USSR	22 FEB	1 MAR 65
1965 12CW	1190	USSR	22 FEB	1 MAR 65
1965 12CY	1195	USSR	22 FEB	9 MAR 65

DECAYED OBJECTS (CONT 'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1965 LAUNCHES (CONT 'D)					
1965 12CZ		1196	USSR	22 FEB	9 MAR 65
1965 12DB		1198	USSR	22 FEB	4 MAR 65
1965 12DD		1200	USSR	22 FEB	11 MAR 65
1965 12DE		1201	USSR	22 FEB	4 MAR 65
1965 12DF		1202	USSR	22 FEB	9 MAR 65
1965 12DK		1206	USSR	22 FEB	9 MAR 65
1965 12DL		1209	USSR	22 FEB	11 MAR 65
1965 12DM		1210	USSR	22 FEB	4 MAR 65
1965 12DP		1212	USSR	22 FEB	12 MAR 65
1965 12DX		1220	USSR	22 FEB	12 MAR 65
1965 12DZ		1222	USSR	22 FEB	12 MAR 65
1965 12EE		1227	USSR	22 FEB	11 MAR 65
1965 12EG		1230	USSR	22 FEB	13 MAR 65
1965 12EW		1254	USSR	22 FEB	12 MAR 65
1965 13B		1193	USSR	25 FEB	10-11 MAR 65
1965 15C		1207	USSR	7 MAR	10-11 MAR 65

* USSR ANNOUNCED SUCCESSFUL RE-ENTRY AND RECOVERY
** SUCCESSFUL RE-ENTRY AND RECOVERY
*** SUCCESSFUL RE-ENTRY, BUT NOT RECOVERY
**** USSR ANNOUNCED SUCCESSFUL RE-ENTRY AND RECOVERY OF MANNED SPACE VEHICLE
***** HIT MOON
***** US SUCCESSFULLY ORBITED AND RECOVERED A MANNED SPACE VEHICLE